

CSC123 Programming Project 1

A Simulated Chat Room

A chat room serves many simultaneous visitors. Any visitor can post a message simultaneously on every visitor's screen, or direct his/her message to a particular person.

In lieu of screens, cell phones, terminals, or other devices, let's assume that everyone in a chat room types his/her messages one at a time into one program and that the messages are displayed with a header indicating to whom they are directed. Each chat room visitor has a name and a status: logged in or logged out. Each logged-in visitor can send a message to the whole room or to an individual in the room. Each visitor can see a list of people currently in the room. Each visitor may log in and log out. When a person logs in or out, a message is sent to all others in the chat room.

Write an application that simulates a chat room. Make sure to clearly separate the data model from the view.

Requirements

1. Write a detailed problem description and identify the nouns and verbs of the problem.
2. Determine the classes that your program will use.
3. Determine the methods for each class.
4. Determine the attributes of each class by observing which classes need to send messages to which.
5. Determine the constructors for each class.
6. Determine the relationships among the classes that are determined.
7. Refine your design.
8. Determine the headers for all methods for each class, but do not implement the methods.
9. Implement all classes using a text-based user interface.
10. After a class is implemented, write a test class to test the implemented class before moving to next class implementation.
11. Test the complete implementation.

Submission

The completed project should be included in a single file and submitted onto the blackboard. The hardcopy or email submission will not be accepted. Your submission should include:

1. The detailed problem description.
2. The refined classes with their attributes, constructor, and methods.
3. The class diagram (class relationships).
4. Java code for each class and corresponding test class.
5. Your test cases and test results (you may include some screen shots as the test results).